Kelly Air Force Base

Installation Restoration Program

Site S-1 Soils Fact Sheet

January 1999

A fact sheet providing information about cleanup activities at Site S-1 in Zone 5

The purpose of this fact sheet is to describe the proposed plan for interim remedial action at Site S-1. A 30-day public comment period, which began on Dec. 31, 1998, is currently in effect until Jan. 29, 1999. Community members can comment on the plan by writing to:

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The plan can be reviewed during the comment period at the Kelly AFB Library and the San Antonio Central Library .

Site S-1 History

Site S-1 was the former location of an intermediate storage area for wastes on their way to off-base recycling or disposal facilities. Wastes were stored at this location from the 1960s until 1973. Wastes stored at this site include carbon cleaning compounds and petroleum, oil and lubricants. Surplus electrical transformers were also stored at the site over a period of time. Waste management and disposal activities are believed to have caused contamination in an area referred to as the sump area. The sump area was formerly a localized depression where leaks, spills or rainwater would collect and which may subsequently have been backfilled.

Soil Contamination

The primary contaminant of concern at Site S-1 is chlorobenzene. The highest concentrations of chlorobenzene were detected in samples taken from the former sump area. The soil contamination was separated into two zones at Site S-1 due to the different types of soils and varying contaminant concentrations. Chlorobenzene contamination was encountered at high concentrations in the sump area; however, it was more widespread in the "smear" zone (the depth at which the water table fluctuates and spreads the contamination through the soil). Treating the sump area separate from the smear zone will allow for the selection of more effective remediation alternatives.

Scope of Action

The contamination in the soils underlying the site does not pose a risk to human health; although there is a possibility these contaminants may be leaching into and contaminating the shallow groundwater aquifer.

The goal of the proposed action is to reduce or eliminate the contaminants in the soil and eliminate the possibility of contaminating the shallow groundwater aquifer.

Sump Area Alternatives

Six alternatives were analyzed for the sump area: capping, Soil Vapor Extraction (SVE) wells, excavation and off-site disposal, monitored natural attenuation and no action. Ex situ biological treatment, which is the process of stockpiling the contaminated soil and injecting it with oxygen to enhance the natural breakdown of the contaminants, was also considered as a remediation alternative.

Excavation and off-site disposal were chosen as remedial actions for the sump area. The estimated time of implementation is one year and will cost about $601,000. This alternative consists of removing the contaminated soil and transporting it off site to an approved disposal facility. Approximately 1,700 cubic yards of soil will be disposed of at a landfill authorized to accept and dispose of contaminated soil. The excavated area will be backfilled with soil that was originally removed but has no contamination and clean fill as required.

Smear Zone Alternatives

Four alternatives were analyzed for smear zone remedial action: Soil Vapor Extraction (SVE), dual phase groundwater recovery and SVE, monitored natural attenuation and no action.

Dual phase groundwater recovery and SVE was chosen as the most appropriate remediation alternative for the Smear Zone. The estimated time of implementation is five years and will cost about $756,000. This alternative would utilize groundwater extraction in conjunction with a SVE system. SVE is a process by which contaminants are extracted from the soil in their gaseous state. The groundwater would be treated and disposed of through an existing groundwater treatment system.

CERCLA Requirements

The chosen remediation processes for both the sump area and smear zone meet CERCLA requirements for closure. CERCLA requires the remediation processes to effectively reduce the toxicity, mobility and volume of contaminants at the site. Toxicity is the level at which a contaminant causes harmful effects to human health and the environment. Mobility is the rate at which a contaminant travels through a medium, such as soil or water, and volume refers to the amount of substance in a given area. All three requirements will be met through the remediation alternatives chosen for both the sump area and smear zone.